

REMARKS/ARGUMENTS

Applicant would like to thank the Examiner for the careful consideration given the present application. Reconsideration of the subject patent application in view of the present remarks is respectfully requested.

Claims 1-2 and 6-7 are amended.

Claim Rejections - 35 USC § 112

Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 2 has been amended to comply with 35 U.S.C. 112, second paragraph. Thus, the rejection as it applies to claim 2 should be withdrawn.

Claim Rejections - 35 USC § 103

Claims 1-2, 6-7 and 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uesono et al (JP Pub. 2002-205169; hereinafter "Uesono") in view of Mori (US Pat. 4,445,022). Applicants respectfully request withdrawal of the rejection for at least the following reasons.

Regarding claim 1, neither Uesono nor Mori, alone or in combination, discloses, teaches or renders foreseeable that the controller includes, separately from the position control system, a dedicated separation control system which moves the actuator only in the direction where the welding torch is separated from the workpiece; and the controller outputs a velocity command relating to a welding torch pull-up operation to the dedicated separation control system only when the welding torch is moved in the direction separating from the workpiece.

Uesono does not disclose the above feature, as admitted by the Examiner in the Office action.

The Office action states that Mori discloses a controller includes, separately from the position control system 40 (Fig. 5), a dedicated separation control system 44 (Fig. 5) which moves the actuator (Fig. 5) in the direction where the welding torch is separated from the workpiece 22 (Fig. 5); and a velocity command relating to a welding torch pull-up operation is outputted to the dedicated separation control system only when the welding torch is moved in the direction separating from the workpiece (Col. 8, Lines 31-46).

However, the driving unit 44 disclosed in Mori is not the dedicated separation control system of the present invention, because there is no disclosure in Mori that the driving unit 44 moves the main robot body 16 (i.e., the actuator) **only in the direction** where the welding torch is **separated** from the workpiece 22. According to Mori, the robot driving unit 44 merely controls the positioning of the main robot body 16 in such a manner that the angular displacements have null errors relative to positions fed back from a position sensor (Mori; Col. 8, Lines 38-44). Mori is silent about the direction of moving the main robot body 16 by the robot driving unit 44.

Also, the command which is outputted from the positional controller 40 in Mori does not relate to a welding torch **pull-up operation**, but relates to the **angular displacements** of the main robot body 16 (Mori; Col. 8, Lines 38-46).

Moreover, there is no disclosure in Mori that the positional controller 40 outputs the command **only when** the welding torch is moved in the direction **separating** from the workpiece, because Mori is silent about the moving direction of the welding torch.

Accordingly, the combination of Uesono and Mori does not meet all of the limitations of claim 1. Therefore, the asserted combination of Uesono and Mori does not render claim 1 obvious. Thus, withdrawal of the rejection as it applies to claim 1 is respectfully requested.

Similar arguments apply to claim 6. The other rejected claims are dependent from claim 1 or 6, and therefore the same argument will apply to these claims.

Claims 4-5 and 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uesono in view of Mori and further in view of Hashimoto et al. (JP 11282540; hereinafter "Hashimoto"). Applicants respectfully request withdrawal of the rejection for at least the following reasons.

Claims 4-5 and 9-10 are dependent from claims 1 and 6, respectively. Thus, all of the limitations of claims 1 and 6 are included in claims 4-5 and 9-10, respectively. For the same reason as claims 1 and 6, claims 4-5 and 9-10 should be allowable. Hashimoto is merely cited for the method of preventing collision and the increased threshold for detection of collision.


In light of the foregoing, it is respectfully submitted that the present application is in a condition for allowance and notice to that effect is hereby requested. If it is determined that the application is not in a condition for allowance, the Examiner is invited to initiate a telephone interview with the undersigned agent to expedite prosecution of the present application.

Appl. No. 10/582,563
Amdt. Dated October 29, 2009
Reply to Office action of September 4, 2009

If there are any additional fees resulting from this communication, please charge same to our Deposit Account No. 16-0820, our Order No.: NGB-40647.

Respectfully submitted,

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Date: October 29, 2009